

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Roland Henry PRATT

Application No.: New U.S. National Stage of
PCT/GB01/02616

Filed: January 25, 2002

Docket No.: 111805

For: GAS LASER AND OPTICAL SYSTEM

PRELIMINARY AMENDMENT

Director of the U.S. Patent and Trademark Office
Washington, D. C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE SPECIFICATION:

Page 1, line 32 to page 2, line 4, delete current paragraph and insert therefor:

Back-reflection is undesirable in the devices mentioned above and in all devices which require a specific frequency of laser light, because excessive back- reflection interacts with the laser to change the polarisation and output frequency of the laser light. Various HeNe lasers suffer from sensitivity to back- reflection.

IN THE CLAIMS:

Please replace claims 5-7 as follows:

5. (Amended) An interferometric displacement determination device as claimed in claim 3 wherein the HeNe gas ratio is about 80:20 to about 90:10 respectively.

6. (Amended) An optical apparatus or interferometric displacement determination device as claimed in claim 1 wherein the laser achieves a frequency

stabilisation below 1×10^{-7} (Frequency noise/Absolute frequency) and the optical feedback is in the range of 0.1% to 10% of the light output of the laser.

7. (Amended) An optical apparatus or interferometric displacement determination device as claimed in claim 1 wherein the apparatus or the device includes an optical fibre element.

REMARKS

Claims 1 - 9 are pending. By this Preliminary Amendment, the specification and claims are amended. In the specification, the word "frequency" has been crossed through by mistake. This occurred during the photocopying process at the International Bureau and is on the original copy of the published document. The specification is amended to remove the error. Prompt and favorable examination on the merits is respectfully requested.

The attached Appendix includes marked-up copies of each rewritten claim (37 C.F.R. 1.121(c)(1)(ii)).

Respectfully submitted,


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Attached: Appendix
Date: January 25, 2002

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APPENDIX

Page 1, line 32 to page 2, line 4:

Back-reflection is undesirable in the devices mentioned above and in all devices which require a specific ~~frequency~~frequency of laser light, because excessive back- reflection interacts with the laser to change the polarisation and output frequency of the laser light. Various HeNe lasers suffer from sensitivity to back- reflection.

Changes to Claims:

The following are marked-up versions of the amended claims:

5. (Amended) An interferometric displacement determination device as claimed in claim 3 ~~or claim 4~~ wherein the HeNe gas ratio is about 80:20 to about 90:10 respectively.

6. (Amended) An optical apparatus or interferometric displacement determination device as claimed in ~~claim 1 any one of the preceding claims~~ wherein the laser achieves a frequency stabilisation below 1×10^{-7} (Frequency noise/Absolute frequency) and the optical feedback is in the range of 0.1% to 10% of the light output of the laser.

7. (Amended) An optical apparatus or interferometric displacement determination device as claimed in ~~claim 1 any one of the preceding claims~~ wherein the apparatus or the device includes an optical fibre element.